REMARKS

Claims 1-31 and 33-59 are pending in this application. By this Amendment, claims 1, 30, 31, 33-36, 41, and 46 are amended, claim 59 is added, and claim 32 is cancelled without prejudice or disclaimer. Support for the new claim 59 can be found in the original specification, including the claims and figures, for example, see original claims 1, 16, and 17. Reconsideration in view of the above amendments and following remarks is respectfully requested.

1. **Drawings**

The drawings are objected to under 37 C.F.R. §1.83(a). Applicants submit that one of ordinary skill in the art would recognize that Figures 3 and 10 illustrate a situation in which vent hole 68 is open and lid 66 is at a second position. Thus, 37 C.F.R. §1.83(a) is satisfied.

Applicants further submit that one of ordinary skill in the art would recognize that, based on Figures 3 and 10, the spring 62, linkage mechanism 58, end pin 64, and lid 66 would be movable into a position in which the vent hole 68 can be closed and the lid 66 can be in a second position. Applicants submit that Figures 3 and 10 show every feature specified in the claims in that the mechanics of the pump as illustrated would clearly show the claimed features to one of ordinary skill in the art.

Withdrawal of the objection is respectfully requested.

2. **35 U.S.C. §112**

The Office Action rejects claims 46-49 under 35 U.S.C. §112, second paragraph as having insufficient antecedent basis. Applicants submit that the above

amendments obviate the rejection. Withdrawal of the rejection is respectfully requested.

3. **35 U.S.C. §102(b)**

a. *Morifuki*

The Office Action rejects claims 1-4 under 35 U.S.C. §102(b) as being anticipated by *Morifuki* (U.S. Patent No. 4,883,464). The rejection is respectfully traversed.

The Office Action states that:

> Morifuki discloses an electric breast pump including: one hood member 14; a chamber adapted to be in fluid communication with the hood member via a first valve 8; a first motor (3, 11) operatively associated with a pumping member [which] is movable to draw air from the hood member into the chamber via the first valve (col. 2 line 26+); the chamber having at least a first opening (16 or the opening when valve 8 is opened) and a closure member 9 operatively associated with the motor; wherein the closure member is movable between the first position (when the closure member/diaphragm 9 vibrates to the left) to close the first opening (closing the valve 8) and a second position (when closure member/diaphragm 9 vibrates to the right) in which the first opening is open (opening the valve 8) (see col. 2, lines 51-63); [and] a second valve[.]

See page 3 of the Office Action.

Claim 1 of the present application recites, as one of its features, that "said closure member is at said first position when said first motor is in operation and is at said second position when said first motor is not in operation". The "first position" referred to is one in which the first opening is closed, and the "second position" is one in which the first opening is open.

According to col. 2, lines 51-65 of *Morifuki:*

> With this arrangement, if the switch 2 is turned on, an electric mechanism ... causes the diaphragm 9 to vibrate,

> and suction of the air from the air suction inlet 10 occurs by way of the suction valve 8. In particular, when the diaphragm 9 vibrates to the left in FIG. 2, the valve 8 pushed to the left by the inner pressure inside the diaphragm section, closing the valve 8 and venting the air to the outside via the exhaust valve ... When the diaphragm 9 vibrates to the right, the valve 8 moves to the right by the negative pressure in the diaphragm section, opening the valve 8 while maintaining an exhaust valve in a closed state. As a result, a negative pressure is generated at the air suction inlet 10 which is connected to valve 8 and sucks the air from the bottle c.

It can thus be seen that during operation of the motor, the diaphragm 9 (which appears to be used by the Office Action to constitute the "closure member" recited in Claim 1) moves/vibrates between a closing position and an opening position, so as to effect suction of air from the air suction inlet 10, and thus does not remain in one position, be it the closed position or the open position, as recited in claim 1.

For at least the reasons set forth above, Applicants respectfully submit that claim 1 is allowable. Claims 2-4 depend from claim 1 and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

b, *Uehara et al.*

The Office Action rejects claims 1-2 and 4-9 under 35 U.S.C. §102(b) as being anticipated by *Uehara et al.* (U.S. Patent No. 5,947,923, hereinafter "*Uehara*"). The rejection is respectfully traversed.

According to the Office Action:

> Uehara discloses an electric breast pump including a hood member 11; a chamber; a first motor 24; the chamber having at least a first opening (15b Figs. 2, 9-13); and a closure member (valve 15a); wherein the closure member is movable between a first position to close the first opening 15a (Figs. 9-11) and a second position in which the first opening is open (Fig. 13, col. 6,

> lines 23-32); wherein the closure member is at the first position when the first motor is in operation (Figs. 9-11) and is at the second position when the first motor is not in operation (Fig. 13); a ring-shaped structure 14b (Fig. 5).

See pages 3-4 of the Office Action.

Claim 1 recites at least the following features that do not appear to be disclosed or suggested by *Uehara*:

i. that the chamber is adapted to be in fluid communication with a hood member; and

ii. that the chamber has an opening which is closable by a closure member, when the motor is in operation, the closure member closes the opening, and when the motor is not in operation, the opening is open.

In *Uehara*, it can be seen that the opening 15b is closed to a mouth portion of the hood 10, but <u>not</u> in a chamber which is in a fluid communicable relationship with the hood. In addition, according to col. 5, lines 62-65:

> At first, the head portion 14a of the piston portion 14 is located at the position most adjacent to the fitting portion 11 of the hood portion 10, i.e. the top dead center and the valve 15a of the positive pressure opening means 15 is closed.

Turning on of the switch 27 is mentioned only subsequently. Thus, when the motor is not in operation, <u>the opening 15b is closed</u> contrary to claim 1, which requires an opening to be open when the motor is not in operation. As both of the above features are absent in *Uehara*, Claim 1 is clearly novel and non-obvious over *Uehara*.

For at least the reasons set forth above, Applicants respectfully submit that claim 1 is allowable. Claims 2, and 4-9 depend from claim 1 and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

c, *Atkin et al.*

The Office Action rejects claims 30-32, 36, and 38-40 under 35 U.S.C. §102(b) as being anticipated by *Atkin et al.* (U.S. Patent Publication No. 2005/010108, hereinafter "*Atkin*"). The rejection is respectfully traversed.

According to the Office Action, *Atkin* discloses an electric breast pump including at least one hood member, a sensing unit IR, a data processing unit 56 and a motor.

Claim 30 recites an electric breast pump including: at least one hood member adapted to be fitted over a breast of a user; at least a first sensing unit adapted to detect the passing of milk.

Atkin discloses at paragraph [0050] that:

> For convenience, the user input means mimics the actuator of a manual breast pump. This arrangement could be replaced by a foot switch and pedal rather like that of a sewing machine or a separate handheld control unit. The user inputs may be communicated to the processing circuit wirelessly, e.g. using IR.

The IR unit is thus for allowing a user to transmit signals to the processing circuit wirelessly, and is not for detecting the passing of milk. In addition, only the IR receiver is fixed to the breast pump whereas the IR transmitter is remote from the breast pump (which is why the specification mentions "wirelessly").

On the other hand, Claim 30 as amended recites at least these features not disclosed or suggested by *Atkin*:

i. the breast pump includes a chamber adapted to be in fluid communication with the hood member;

ii. the chamber includes at least an infrared (IR) unit for detecting the passing of milk; and

iii. the IR unit includes at least one IR transmitter for transmitting IR signals and at least one IR receiver for receiving the IR signals transmitted by the IR transmitter.

Thus, revised claim 30 specifies (i) a chamber in fluid communication with the hood member and (ii) that the chamber has both an IR transmitter and (iii) an IR receiver for detecting the passing of milk. These features are absent in *Atkin* and thus are novel and non-obvious over *Atkin*.

For at least the reasons set forth above, Applicants respectfully submit that claim 30 is allowable. Claims 31, 32, 36, and 38-40 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

4. 35 U.S.C. §103(a)

a. *Uehara* in view of *Schlensog et al.*

The Office Action rejects claims 10-12, 16, and 18 under 35 U.S.C. §103(a) as being unpatentable over *Uehara* in view of *Schlensog et al.* (U.S. Patent No. 4,673,388, hereinafter "*Schlensog*"). The rejection is respectfully traversed.

Applicants submit that claims 10-12, 16, and 18 depend from claim 1 and are allowable over *Uehara* for at least the reasons set forth above. *Schlensog* fails to cure the deficiencies of *Uehara*. *Schlensog* discloses a breast pump with a suction bell and a suction pump, but similar to *Uehara* fails to disclose the features mentioned above that *Uehara* lacks (*i.e.*, that the chamber is adapted to be in fluid communication with a hood member; and that the chamber has an opening which is

closable by a closure member, when the motor is in operation, the closure member closes the opening, and when the motor is not in operation, the opening is open).

For at least the reasons set forth above, Applicants respectfully submit that claim 1 is allowable. Claims 10-12, 16, and 18 depend from claim 1 and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

b. *Uehara* in view of *Greter et al.* or *Morifuji*

The Office Action rejects claims 13-16 under 35 U.S.C. §103(a) as being unpatentable over *Uehara* in view of *Greter et al.* (U.S. Patent No. 6,547,756, hereinafter "*Greter*") or *Morifuji* (U.S. Patent No. 4,886,494). The rejection is respectfully traversed.

Greter fails to cure the deficiencies of *Uehara*. *Greter* discloses a breast pump which can be programmed to generate a plurality of differing milk expression sequences, but similar to *Uehara* fails to disclose the features mentioned above that *Uehara* lacks (*i.e.*, that the chamber is adapted to be in fluid communication with a hood member; and that the chamber has an opening which is closable by a closure member, when the motor is in operation, the closure member closes the opening, and when the motor is not in operation, the opening is open).

Morifuji also fails to cure the deficiencies of *Uehara*. *Morifuji* discloses a milking apparatus that includes a pressure adjusting mechanism, but similar to *Uehara* fails to disclose the features mentioned above that *Uehara* lacks (as discussed above).

For at least the reasons set forth above, Applicants respectfully submit that claim 1 is allowable. Claims 13-16 depend from claim 1 and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

c. *Uehara* in view of *Atkin*

The Office Action rejects claims 19-21, 25, and 28-29 under 35 U.S.C. §103(a) as being unpatentable over *Uehara* in view of *Atkin*. Applicants note that the Office Action states that this rejection is a "35 U.S.C.102(b)" rejection; however this appears to be in error as the rejection clearly states that *Atkin* is applied to cure deficiencies of *Uehara*. Therefore, the rejection is assumed to be a 103(a) rejection and is respectfully traversed.

Atkin fails to cure the deficiencies of *Uehara*. *Atkin* discloses the features discussed above, but similar to *Uehara* fails to disclose the features mentioned above that *Uehara* lacks (as also discussed above) and *Atkin* fails to disclose or suggest, as recited in claim 19, a sensing unit adapted to detect the passing of milk.

For at least the reasons set forth above, Applicants respectfully submit that claim 19 is allowable. Claims 20, 21, 25, and 28-29 depend from claim 19 and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

d. *Atkin*

The Office Action rejects claims 22-24 and 33-35 under 35 U.S.C. §103(a) as being unpatentable over *Atkin*. The Office Action states that this rejection is over *Atkin* but in the following paragraph discusses *Uehara*, therefore it is unclear as to

the basis of this rejection. Applicants also note that claims 1 and 19, from which claims 22-24 depend, are not rejected by *Atkin* alone and thus this rejection adds further confusion. For purposes of discussion, Applicants are assuming that the rejection is over *Atkin* alone. The rejection is respectfully traversed.

Atkin discloses the features discussed above, but fails to disclose the features of claims 1 and 19, from which claims 22-24 depend. Specifically, *Atkin* fails to disclose or suggest at least the feature of claim 1 of wherein said closure member remains at said first position when said first motor is in operation and remains at said second position when said first motor is not in operation; and at least the feature of claim 19 of further including at least one sensing unit adapted to detect the passing of milk (see the discussion regarding *Atkin* and claim 30). Similarly, *Atkin* fails to disclose or suggest all the features of claim 30, for the reasons discussed above.

For at least the reasons set forth above, Applicants respectfully submit that claims 19 and 30 are allowable. Claims 22-24 depend from claim 19 and claims 33-35 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

e. *Atkin* in view of *Greter*

The Office Action rejects claims 26-29 and 37-40 under 35 U.S.C. §103(a) as being unpatentable over *Atkin* in view of *Greter*. The rejection is respectfully traversed.

Greter fails to cure the deficiencies of *Atkin*. *Greter* discloses the features discussed above, but similar to *Atkin* fails to disclose the features mentioned above that *Atkin* lacks (as also discussed above concerning claims 19 and 30 and *Atkin*).

For at least the reasons set forth above, Applicants respectfully submit that claims 1 and 30 are allowable. Claims 26-29 depend from claim 1 and claims 37-40 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

f. *Atkin* in view of *Morifuki* or *Uehara*

The Office Action rejects claims 41-52 and 58 under 35 U.S.C. §103(a) as being unpatentable over *Atkin* in view of *Morifuki* or *Uehara*. The rejection is respectfully traversed.

Morifuki fails to cure the deficiencies of *Atkin*. *Morifuki* discloses the features discussed above, but similar to *Atkin* fails to disclose the features mentioned above that *Atkin* lacks (as also discussed above concerning claim 30 and *Atkin*).

Uehara also fails to cure the deficiencies of *Atkin*. *Uehara* discloses the features discussed above, but similar to *Atkin* fails to disclose the features mentioned above that *Atkin* lacks (as also discussed above concerning claim 30 and *Atkin*).

For at least the reasons set forth above, Applicants respectfully submit that claim 30 is allowable. Claims 41-52 and 58 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

g. *Atkin* in view of *Uehara* and further in view of *Greter* or *Morifuji*

The Office Action rejects claims 53-56 under 35 U.S.C. §103(a) as being unpatentable over *Atkin* in view of *Uehara* and further in view of *Greter* or *Morifuji*. The rejection is respectfully traversed.

Uehara also fails to cure the deficiencies of *Atkin* as discussed above concerning claim 30. *Morifuki* fails to cure the deficiencies of *Atkin* and *Uehara*. *Morifuki* discloses the features discussed above, but similar to *Atkin* and *Uehara*, *Morifuki* also fails to disclose the features mentioned above that *Atkin* and *Uehara* lack (as also discussed above).

For at least the reasons set forth above, Applicants respectfully submit that claim 30 is allowable. Claims 53-56 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

h. *Atkin* in view of *Greter* and further in view of *Uehara*

The Office Action rejects claims 46-49 under 35 U.S.C. §103(a) as being unpatentable over *Atkin* in view of *Greter* and further in view of *Uehara*. The rejection is respectfully traversed.

Greter also fails to cure the deficiencies of *Atkin* as discussed above concerning claim 30. *Uehara* fails to cure the deficiencies of *Atkin* and *Greter*. *Uehara* discloses the features discussed above, but similar to *Atkin* and *Greter*, *Uehara* also fails to disclose the features mentioned above that *Atkin* and *Greter* lack (as also discussed above).

For at least the reasons set forth above, Applicants respectfully submit that claim 30 is allowable. Claims 46-49 depend from claim 30, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

5. Conclusion

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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